



Wildlife Campus

20
YEARS
ANNIVERSARY

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Magazine

ASI The Puff Adder

SanParks
VS
Google Maps

Black rhino
aka
Al Capone

The first dinosaur fossil
discoverd in South Africa

Updated course:
Marine Biology

WildlifeCampus

SanParks says you cannot Google Maps says you can



WildlifeCampus CEO

I do not know if it is a truism, but I strongly suspect that most people don't enjoy listening to a comprehensive minute-by-minute recap of other people's holidays ... so ... I was in the Kruger last week and let me tell you what I saw ...

I was actually fortunate enough to spend last week in the Kruger and I will explain what I saw, but this won't be about a superlative boomslang sighting (although it was massive) and it won't be about the grysbok, civet, bushbabies or swimming spotted hyenas either.



Kruger has recently reopened after the lockdown. It is however still in the grip of some Covid-related protocol and is at 50% occupancy. Consequently, it is relatively empty. The roads are empty, the shops are empty, the restaurants, receptions, and night-drives are empty. I am left wondering: why?

Certainly, the Covid pandemic is far from over, and we must all continue to be responsible, vigilant, and compliant to ensure that we are not exposed or infected. However, wherever people come together in the Park; in the restaurants, shops, receptions and night drives, strict sanitising and social distancing are enforced.

The two main areas of the Kruger experience, the camp accommodation and personal game drives are by their very nature socially distant. Is it possible to open fully in a responsible manner? I would certainly think so.

On lockdown, Kruger sent most of their staff home, other than essential service workers, such as their anti-poaching units, scientific services, and access control personnel. All staff were brought back in July and most gratifyingly were paid while on forced leave. The staff are back, the thousands of postponed bookings appear keen to return. Certainly, the SanParks Booking system says they are fully booked, but this is not the case; rather 50% of all park accommodation has been marked as unavailable. If the KNP is still subsidising all the other National Parks and its revenue is still half of what it could (should?) be, what is the knock-on effect down the line?

Everyone was also very pleased to see some very welcome and much needed early rains in the Park. This especially considering the revised water distribution policy for the KNP. The policy attempts to simulate the natural distribution of water with the positive consequences it will have on biodiversity, without detracting from the tourist's experience. In simple terms, this is achieved through the closure of artificial water-points. The policy however does not extend (or cannot be enforced) to the private reserves on the Western boundary of the park where anecdotal reports appear to indicate that game is being attracted from the Park westwards towards water.

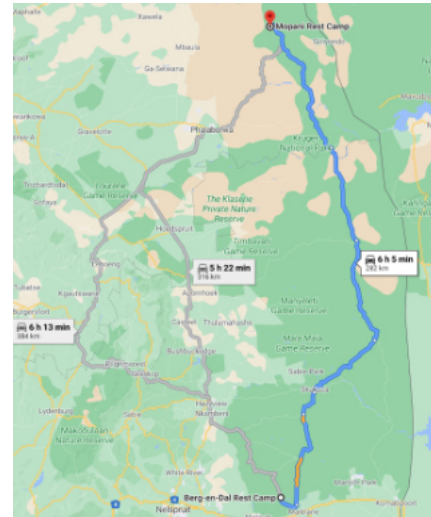
We stayed in two Camps over six nights in the Park, Mopane in the far(ish) North and Berg-en-Dal in the extreme(ish) South. They are 283 Km apart. SanParks says you cannot do this drive in a day; it is too far - Google Maps says you can. Gates opened at 05h30 and close at 18h00, that is 12 ½ hours. It took us 10; that is an average speed of less than 30 Km/h. I do not recommend it; doable, sure, but should you? No. It is too far. While there was no need to rush and we stopped often, at the end of the (very long) day, it is a 10-hour game drive and that is simply too long.

The country and Kruger are both slowly emerging from the lockdown torpor. Much of the tourist infrastructure needs repair (there is a re-thatching programme underway) and refurbishment (a good cleaning would not be remiss either). Kruger enthusiasts will tolerate an inconvenience and aging facilities, but not forever. The longer it takes for the tourists (to be allowed) to return, the

longer it will take to get the Park to the state it needs to be in.

Did I mention the four kills we saw? Lion on a buffalo calf, two leopards on an impala, a pair of tawny eagles on a water monitor and a clan of spotted hyenas on the remains of a large dismembered unidentifiable mammal. There is nothing quite like the Kruger...

Todd



Facebook Competition Winner



During September, a photographic competition was held on the **WildlifeCampus Facebook group**.

Photography enthusiasts could submit their pictures to stand a chance of winning an online course of their choice.

The winning picture (determined by most likes) was submitted by **Natasha Banhidy**.

Congratulations Natasha!

Enjoy your Wildlife Management course!

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LEARN. PROTECT. SAVE

THE STRIKING PUFF ADDER



© Johan Marais
AFRICAN SNAKEBITE INSTITUTE

The Puff Adder is a well-known snake, that occurs widely throughout sub-Saharan Africa with a population in Morocco and another extending into the Arabian Peninsula. They occur in many biomes, from desert to savanna and high-altitude grassland.

Masters of camouflage, Puff Adders are well patterned with rough, keeled scales - this enables them to blend into their surroundings incredibly well.

A stocky snake with triangular head and they come in a range of colours, from yellow to light brown, dark brown and grey. They have distinct chevron-like markings down the first half of the body and have a light line running between the eyes on the top of the head.



© Johan Marais
AFRICAN SNAKEBITE INSTITUTE



Their colour often varies based on their location, with specimens from parts of the Western Cape, Eastern Cape and Kwa-Zulu Natal provinces of South Africa as well as specimens from Namibia and Kenya being very boldly coloured, whereas those from Gauteng, Free State, Limpopo and the North West provinces are rather drab in comparison. Puff Adders are quite distinctive and are seldom confused with other snakes, except occasionally for dwarf adders.

They reach a maximum length 1.25 m in southern Africa, but have been recorded at over 1.8 m in length in East Africa.



They are ambush hunters and will lie in wait until suitable prey comes along. They eat rodents and other small mammals, reptiles, birds and toads. They have recently been observed using lingual luring – they flick their tongues up and down in a seductive manner in an effort to lure toads within striking distance.

Small Puff adders are often preyed upon by birds of prey and ground hornbills, and adults are also often eaten by cobras. Many Puff Adders are killed by passing vehicles when crossing roads.



Their name comes from the puffing sound they make as a warning when confronted. The sound is made by the snake exhaling. Puff Adders are extremely fast striking snakes, and they can strike close to the length of their body.

Puff Adders give birth to live young – usually between 20 – 40 in one clutch. A captive specimen from East Africa dropped 156 babies in a Czech Zoo, the record number of living offspring from any vertebrate. The females are able to retain sperm, so babies from one birthing might have multiple fathers.

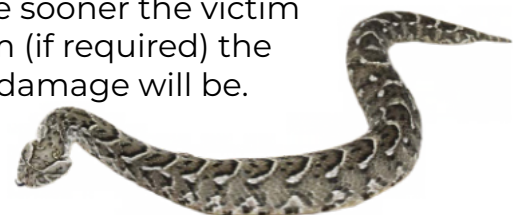


They have large, hinged fangs that are positioned at the front of the mouth – these fold backwards against the roof of the mouth when not in use. Most commonly found on the ground and often seen crossing roads, but they are occasionally found up trees or small shrubs as well, especially in cold and wet conditions. Like other snakes they can swim quite well and are sometimes spotted crossing dams and rivers.

The Puff Adder has a potent cytotoxic venom that may cause major tissue damage at the site of a bite. Bites are extremely painful and severe swelling is common. Very few bites are fatal and the Puff Adder does not account for most fatal bites in Africa, as is often claimed in social media.

First Aid.

Remove jewellery and restrictive clothing, elevate the limb to just higher than the heart and transport the patient to a hospital as soon as possible. The sooner the victim gets antivenom (if required) the less the tissue damage will be.



Course

Updated

Marine Biology for Guides, Divers and Enthusiasts



*Try Free Component
[Click here](#)*

Our Marine Biology for Guides, Divers and Enthusiasts course, also known as Marine Field Guiding, is the benchmark course for those who wish to greatly enhance their marine-related activities for their clients as well as themselves. Whether you're active along the coast, inter-tidal zone or submerged on a coral reef, this course provides you with an in-depth knowledge of the habitat, ecology and organisms you're encountering. Irrespective of whether you're a professional marine guide, recreational diver or ocean enthusiast - this course is for you!

Did you know?

WildlifeCampus

Has students in each of the following countries



Afghanistan	China (Hong Kong S.A.R.)	Iceland	Netherlands	Spain
Albania	Colombia	India	New Zealand	Sri Lanka
Algeria	Congo	Indonesia	Niger	Sudan
American Samoa	Congo, DRC	Iran	Nigeria	Swaziland
Andorra	Cote D'Ivoire (Ivory Coast)	Iraq	Norway	Sweden
Angola	Croatia (Hrvatska)	Ireland	Oman	Switzerland
Antarctica	Cyprus	Israel	Pakistan	Syria
Argentina	Czech Republic	Italy	Panama	Taiwan
Australia	Denmark	Jamaica	Papua New Guinea	Tanzania
Austria	Djibouti	Japan	Peru	Thailand
Azerbaijan	Ecuador	Jordan	Philippines	Trinidad And Tobago
Bahamas	Egypt	Kazakhstan	Poland	Tunisia
Bahrain	El Salvador	Kenya	Portugal	Turkey
Bangladesh	Estonia	Kuwait	Puerto Rico	Uganda
Barbados	Ethiopia	Laos	Qatar	Ukraine
Belgium	Fiji Islands	Lebanon	Reunion	United Arab Emirates
Bermuda	Finland	Lesotho	Romania	United Kingdom
Bhutan	France	Liberia	Russia	United States
Bosnia and Herzegovina	French Guiana	Libya	Rwanda	Uruguay
Botswana	French Polynesia	Luxembourg	Saint Helena and Principe	Vatican City State
Brazil	Gambia	Macedonia	Sao Tome	Venezuela
Bulgaria	Georgia	Madagascar	Saudi Arabia	Vietnam
Burundi	Germany	Malawi	Senegal	Yemen
Cambodia	Ghana	Malaysia	Seychelles	Yugoslavia
Cameroon	Gibraltar	Maldives	Sierra Leone	Zambia
Canada	Greece	Malta	Singapore	Zimbabwe
Cape Verde	Grenada	Mauritius	Slovakia	
Cayman Islands	Guatemala	Mexico	Slovenia	
Central African Republic	Haiti	Morocco	Solomon Islands	
Chile	Hungary	Mozambique	Somalia	
China		Myanmar	South Africa	
		Namibia	South Georgia	
		Nepal		
		Netherlands Antilles		

The first dinosaur fossil Discovered in South Africa

by Dr Billy de Klerk

Dinosaurs have long held a special fascination for young and old alike. These mysterious creatures roamed the Earth for more than 150 million years before their demise 66 million years ago. Discoveries of dinosaur fossils in the early part of the 19th century in "the colonies", like South Africa and Australia, were being made but, because of a lack of expertise, the fossils were sent back to England to be described and studied by palaeontologists like Sir Richard Owen at the British Museum in London.

It is a little known fact that the earliest discovery of dinosaur bones in South Africa were made early in 1845 by two eminent pioneers of science in the Eastern Cape, Dr William Guybon Atherstone and Mr Andrew Geddes Bain. Today Bain can, without fear of contradiction, be called the "*Father of South African Geology*".



At the close of the Sixth Frontier War in the Eastern Cape (1834-35) Andrew Geddes Bain, a settler of Scottish descent, was appointed to the post of Assistant Engineer in the Royal Engineers to supervise the construction of military roads on the frontier, in the country around Grahamstown.

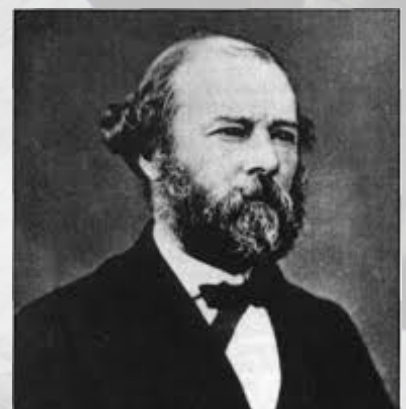
His first assignment in 1837 was the construction of the "Queen's Road", between Grahamstown and Fort Beaufort through the Ecca Pass. Bain developed a keen interest in the then fairly new science of geology, as his daily work brought him into close contact with landforms, rocks, minerals and fossils. He was the first person to attempt to place the rock types he encountered over the vast tracts of the Cape Colony into a geological framework.

Through this interest, he soon made the acquaintance of the local medical practitioner Dr William Guybon Atherstone, a man whose many interests included geology and who could aptly be described as a "*Victorian Gentleman of Science*".

It was early in 1845 that Dr Atherstone, Mr Bain, and three of his children, took "a holiday excursion for the purpose of geological exploration" in the Eastern Cape.

At the outset Dr Atherstone did not accompany the main party from Grahamstown. He had been called away to a country patient and was only able to join them late the following day. Bain and his children had travelled from Grahamstown towards Port Elizabeth and had set up camp in the vicinity of the farm Dassieklip on the Bushmans River, about half-way between Grahamstown and Port Elizabeth.

When Atherstone arrived at the camp he was greeted by Miss Jeanie Bain who was "slowly staggering up the hill under some heavy load" of stones.



He immediately went to help her and saw that they were not stones but fossilised "bones bigger than those of an ox!". The discovery of these large bone fragments caused some excitement and the question of their identity and origin generated considerable discussion late into the night.

The first dinosaur fossil Discovered in South Africa

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From the textures of the bone, Atherstone and Bain recognised that they were those of a very large reptile. What was lacking at that stage though was a diagnostic bone to give some clue as to the identity of the animal. The following day, after a long hot search, Atherstone eventually found an upper jaw bone which included a "row of black serrated and fluted teeth".

At the time, Atherstone and Bain were convinced that the creature was in some way related to the *Iguanodon* - a dinosaur that had been discovered in 1822 by Mrs Mary Mantell in Sussex, (southern) England, and in 1825 described by her husband Dr Gideon Mantell.

Atherstone immediately coined the name "*Cape Iguanodon*" for the fossil and named the discovery site "*Iguanodon Hoek*", a name which was unfortunately never formally adopted. This discovery is now accepted as having been the first record of a dinosaur find in South Africa, made only 23 years after the original discovery of *Iguanodon* in England.

As one can imagine, the science of palaeontology was still in its infancy at the time of this discovery and Atherstone and Bain were only making educated guesses as to the nature of the animal. They therefore resolved to send the fossil to Dr Richard Owen who was at that time the most eminent palaeontologist in England, based at the British Museum in London. It was Owen who, at a meeting in Plymouth of the British Association for the Advancement of Science in 1841, coined the term "*Dinosauria*" to describe the unusual group of large extinct reptiles that he was studying (*Dinosauria* - Greek meaning the 'terrible lizards'). Unfortunately, the upper jawbone and two additional skull fragments are all that remain of this find and are now housed in the Natural History Museum in London. No record of Atherstone's "*bones bigger than those of an ox!*" have survived and it is not known if they

were ever dispatched to London by Atherstone or Bain.

It took Owen some 31 years before he published the first description of the Bushmans River fossil. Atherstone must have been frustrated at this delay, and commented on this lengthy interval in 1871 in an account of a trip which he made between Grahamstown and Port Elizabeth:

"Then over the Komga [River] Now we pass Dassieklip, where the rocks change entirely. There, to the left, lies "Iguanodon- Hoek", where Bain and I years ago exhumed huge bones of some extinct Saurians -one, from the jaw and serrated teeth, I fancy some huge Iguanodon. They lie still in the vaults of the British Museum, unknown, unnamed, unexamined. All that is known of them you will find in the Eastern Cape Monthly Magazine for 1857."

The process of establishing the exact nature of the animal took a long time and a number of milestone events took place from 1845, finally culminating in the positive identification of the animal as *Paranthodon africanus* (Broom), a plant-eating dinosaur belonging to the family of Stegososaurs. Members of this group of dinosaurs are distinct in having plates on their backs and spikes on their tails. The plates are thought to have served as radiators for regulating body temperature and the spikes were used for defence.



Gerhard Marx - Reconstruction of *Paranthodon africanus*.

The first dinosaur fossil Discovered in South Africa

by Dr Billy de Klerk

Some palaeontological events that took place in England prior to 1845.

Historical events in the 19th century just prior to the discovery of the Bushmans River fossil and the emergence of a better picture of the dinosaurs, are worth recording and are presented in chronological sequence below:

- **1809** - A lower shin- bone of a large unknown animal was collected at Cuckfield by William Smith ("Father of English Geology"). This fossil was deposited at the British Museum in London and years later was identified as that of *Iguanodon*.
- **1818** - Bones of *Megalosaurus* were discovered at Stonefield, Oxfordshire in England, but were not described till years later.
- **1822** - Mrs Mary Ann Mantell found the teeth of an unknown animal near Lewes, Sussex (described in 1825 by her husband as those of *Iguanodon*).
- **1824** - Buckland published the first description of a dinosaur called *Megalosaurus*.
- **1825** - Dr Gideon Mantell published a description of *Iguanodon* which was found in a quarry at Cuckfield, Sussex, England.
- **1841** - Sir Richard Owen, of the Natural History Museum London, suggested that these reptiles be called the Dinosauria (the 'terrible lizards').

Events surrounding the discovery of the Bushmans River dinosaur.

- **1845** - Dr WG Atherstone and Mr AG Bain discovered the fossil of "*Cape Iguanodon*" in the Bushmans River valley near Dassiaklip.
- **1849 & 1853** - Bain sent collections of SA fossils to the Natural History Museum in London for identification by Sir Richard Owen. This material included the lower jaw of the "*Cape Iguanodon*" from Bushmans River.
- **1857** - Dr WG Atherstone published the account of their trip to the Bushmans River valley and the discovery of this fossil.
- **1871** - Dr WG Atherstone mentioned that the "*Cape Iguanodon*" had still not been identified and that it was still housed in the Natural History Museum in London.
- **1876** - Sir Richard Owen published an illustrated description of the fossil of "*Cape Iguanodon*" and named it *Anthodon serrarius*. It was at this time that Owen made a fundamental mistake which introduced an element of confusion into the literature. He unwittingly included this fossil with the skull of a pareiasaur, *Anthodon serrarius*, and mistakenly recorded the locality for both specimens as being from Bushmans River. *Anthodon serrarius* was in fact collected by Bain "near Styl-Kranz, Sneewberg range" in the Karoo and would therefore have been some 100 million years older than the Bushmans River specimen. At this time Owen also mistakenly regarded the pareiasaurs as belonging to the dinosauria.

The first dinosaur fossil Discovered in South Africa

by Dr Billy de Klerk

- **1890** - Richard Lydekker, a curator of palaeontology at the British Museum of Natural History in London, corrected Owen's mistake regarding the locality yet failed to distinguish them as separate species - *Anthodon serrarius*, a pareiasaur and "*Cape Iguanodon*" a dinosaur.
- **1909** - Dr Robert Broom visited the British Museum of Natural History and examined the Bushmans River material. He concluded that the fossil was in fact from a herbivorous dinosaur and noted that "*.... when we compare the teeth with those of Cretaceous reptiles of other parts we find that they are strikingly similar to those of some herbivorous Dinosaurs*".

Broom noted a striking similarity between the Bushmans River teeth and a tooth of *Palaeoscincus costatus*, an ankylosaur which is now regarded as a close relative of the stegosaurs. He went on to suggest that, as the Bushmans River teeth were so similar to those of the ankylosaur *Palaeoscincus costatus*, it was probable that they belonged to the same genus. He recommended that the Bushmans River specimen be provisionally named *Palaeoscincus africanus*, emphasizing that it was definitely not the pareiasaur *Anthodon serrarius* and pretty certainly dinosaurian.

- **1913** - Prof. E.H.L. Schwarz and students from Rhodes University revisited the discovery site and they found more fossil bone, including a heavy femoral head, the head of a tibia, some vertebra and numerous smaller fragments. These specimens (a total of 22 fragments) are housed in the Albany Museum. In describing this material Schwarz, however, did not adopt the name proposed by Broom and persisted with the mistaken name *Anthodon serrarius*.

Recent examination of this material suggests that it may not be from a stegosaur but rather from some large sauropod dinosaur. This material was however collected in the general area where Atherstone found the stegosaur.

- **1929** - Frans Baron Nopsca, apparently unaware of the name proposed by Broom, studied the Bushmans River fossil at the British Museum of Natural History and named it *Paranthodon oweni* recognizing that it was in fact a stegosaur. He introduced the new stegosaur genus *Paranthodon* into the literature.
- **1972** - Walter P. Coombs examined the fossil and requested that it be prepared for detailed study.
- **1981** - Peter M. Galton and Walter P. Coombs tied up most of the loose ends of this saga and establish the taxonomy of this specimen in their paper entitled "*Paranthodon africanus* (Broom) - A Stegosaurian Dinosaur from the lower Cretaceous of South Africa".



Dr Robert Broom

The first dinosaur fossil Discovered in South Africa

by Dr Billy de Klerk

Bushmans River Valley

Upper unvegetated slopes are of Cenozoic shelly limestones while the lower slopes are underlain by Kirkwood Form sediments. As one can see from the sequence of events, an element of confusion had surrounded this important South African fossil for some 136 years (1845-1981) and a project was initiated in 1991 to try and relocate the discovery site in the Bushmans River valley. Efforts to find more fossil bone were focused on exposures of early Cretaceous river-borne (fluvial) siltstones and mudstones of the Kirkwood Formation. These sediments are estimated to be some 135 million years old (Valanginian) and the colour of the exposed sediments correspond to the known fossil bone.

Two fossil sites, in erosion gullies, were found in the area and have individually yielded numerous loose bone fragments. It is likely that one of these sites is in fact the original discovery site where Atherstone and Bain found the jaw of *Paranthodon* 1845. Monitoring and excavation is continuing and, where possible, the bone fragments have been carefully pieced together.

While doing this research it was realized that this 1845 fossil discovery was the first dinosaur fossil ever to have been discovered in South Africa and possibly in the whole of Africa. It is now also acknowledged as being the first stegosaur to have been found. The famous American palaeontologist Othniel Charles Marsh introduced the name Stegosaur into the literature when he described *Stegosaurus armatus* in 1877. One must remember that the Bushmans River stegosaur had, at that time, not been recognised as such!



1995 marked the 150th anniversary of the discovery of the stegosaur *Paranthodon* and to commemorate this event a five-metre long, life-sized reconstruction of the animal was made and is on display in the Albany Museum. The morphology of the reconstruction is based on the late Jurassic *Kentrosaurus* from Tanzania and *Tuojiangosaurus* from Sichuan in China, because the form of the teeth of *Paranthodon* bear closer similarity to these animals than those of *Stegosaurus* from North America. In addition, there is a close similarity between *Kentrosaurus* and *Tuojiangosaurus*, both of which have back plates which are narrower and more pointed than in *Stegosaurus*. The similarities between the teeth of *Paranthodon* and *Kentrosaurus* suggest they are more closely related than either is to *Stegosaurus* and is perhaps to be expected because of their geographic proximity. It has also been suggested that the distribution of *Kentrosaurus*, *Paranthodon* and the Indian stegosaur *Dravidosaurus* may be a good indication that stegosaurs evolved in the Cretaceous of Gondwana, probably isolated from the northern hemisphere Laurasian stegosaurs.

Black rhino

By David Batzofin

Al Capone of the African bush



A trails walk in a Big 5 territory can be exciting and nerve-wracking at the same time. And a particular walk I was on turned from the former to the latter almost in the blink of an eye.

For the last few years, I have been teaching a course to field guides and after lectures, I am often offered the opportunity to join students on some of their practical tasks, either game drives or in this case a bush walk to update their tracking and bushcraft skills.

For trails excursions, the students are always accompanied by a highly qualified guide, in case they walk into a dangerous situation and do not have the experience to extricate from it safely.

We had walked for a while with no animal encounters we stopped for a short break, when we set off again, I found myself walking with the guide at the head of the group, an interesting position to be in. Every moment is a learning opportunity, so although the walks might take several hours, the actual distance covered might only be 2-3kms. The students had stopped to identify some interesting tracks on the side of the road.

To test my knowledge, I was asked to identify both tracks and the dung that was nearby. "black rhino" was my confident answer. "Are you sure"? asked the lead guide. I went on to explain why I had made the identification and I was validated by a smattering of applause from the students. "Keep your eyes open" we were told as the tracks were VERY fresh. We had not gone more than about 100m when a snort from some bushes to the left of the road alerted us to the fact that the aforementioned rhino was in the road ahead.

Understand that, although I have some bush skills, I was more than 35 years older than the majority of the students and if it came down to running and climbing trees, I was certainly going to be left at the back of the pack.

The students and I were told to clear the area, a game path, and to do so quickly and quietly, while our lead guide took up a position where he could cover the rhino should a charge occur. Adrenaline was running faster than the Orange River in flood and we all hunkered down, waiting to see what was going to transpire. There was a LOT of shouting from the guide and an equal amount of snorting from the rhino, but eventually, a truce was reached and the rhino turned and headed off along the road. That left our group in a quandary. We could retrace our entire walk to this point or we could head off through a nearby thicket that gave us a shortcut back to camp.

The latter seemed to be the lesser of two evils, but as it turns out it was an Acacia forest full of thorns and our group arrived back at camp bloodied and scratched..

At least with a story that will be repeated around many campfires in the years to come.

